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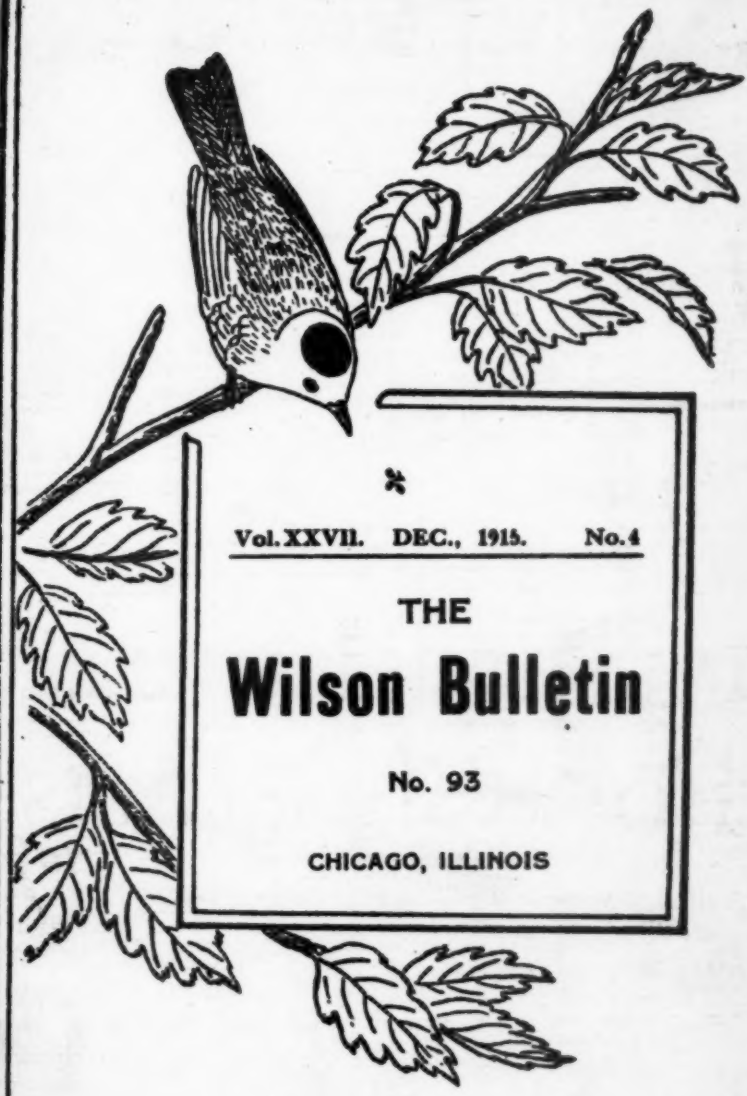

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NO. 93.
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THE HOME OF THE GREAT CREST.

BY IRA N. GABRIELSON.

The Great Crested Flycatcher (*Myiarchus crinitus*) has been practically an unknown bird to me. I saw it during the migrations and for two years knew that a pair was nesting in the tops of a grove of giant cottonwoods. There was, however, little opportunity to learn anything regarding their home life as the dense foliage and undergrowth effectually screened them from view. Imagine then my feelings when a small boy, who lived in the outskirts of the town, stopped me with the following remark (I give his statement verbatim): "There's a bird got a nest in a hole in an old dead tree down in our pasture and its got a brown back and yellow belly and an awful noise." I was interested at once and accompanied my small informant to the tree. As we approached a Great Crest left the hole in the trunk and flew to a neighboring tree.

The nest tree was the remains of an old basswood, a stump perhaps ten feet in height, with a circle of dead branches around the top. The tree was situated in a small glade, and the parents commanded a fine view in all directions. The nest was in a cavity about eight inches deep, and about six feet from the ground. It was lined with feathers, grass, and string, but I missed the traditional snake skin. However,

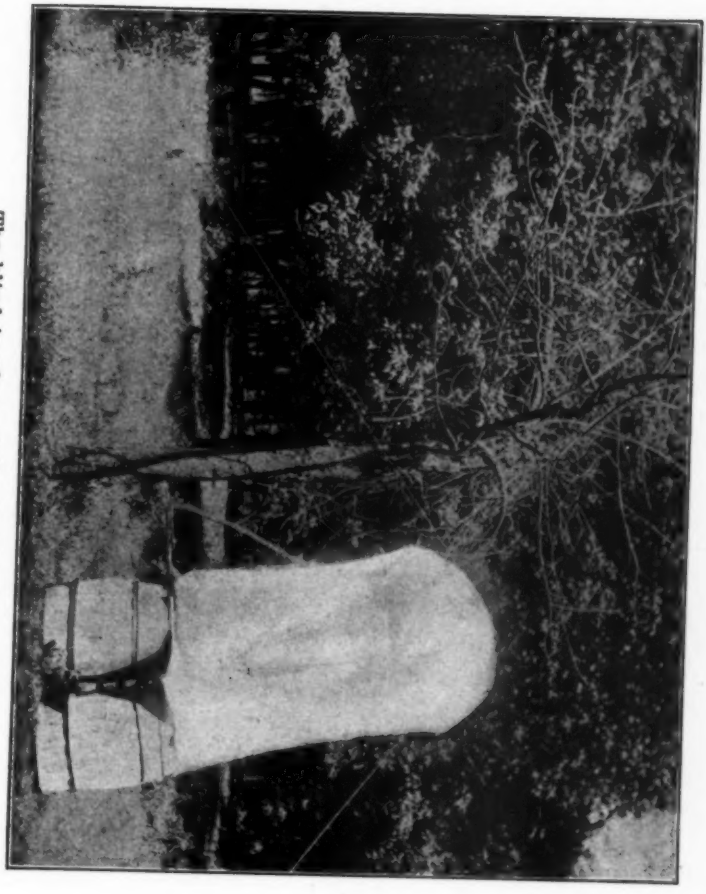
while I was examining the nest my companion volunteered the information that when he found the nest there was an old snake skin hanging from the hole, and that he had pulled it out for fear it would frighten the old birds. On June 29, when I first saw it, the nest contained six eggs.

On July 1, at 7:30 p. m., I visited the nest and found four eggs hatched and the fifth one pipped. On the second, I erected a blind at the nest and camped near by. From this time until July 13, my wife and I spent as much time as possible watching these birds.

The flycatchers were very timid and the blind had to be brought slowly toward the nest. For this reason, it was not until July 5 that it was close enough to make profitable a study of the feeding habits. However, some time was spent in watching on July 2, 3 and 4, and we found that food was usually visible in the beak, although at the distance we were then working we could not accurately determine its nature. On the morning of July 5 the blind was moved to within five feet of the nest and we could readily identify the morsels brought. There were five nestlings, as the sixth egg never hatched. It was removed sometime during July 2.

Beginning the morning of July 5, 42 hours were spent in the blind and about one-half as much time was spent under the trees near by watching the feeding habits of the parents. Some time was spent in the blind each day, with the exception of the tenth, when we were called back to town. Of the 42 hours 12 were on July 7, when we watched from 5:00 a. m. until 7 p. m. The remaining time was scattered through the other six days. No time was spent in the blind on July 13, as some one very considerately stole our blind during the previous night and the birds left the nest before we could get another one ready. We watched for about two hours from a distance of from thirty to forty feet with glasses, but found it very unsatisfactory.

The parent birds looked much alike, but we had one excellent field mark. The male (presumably) had every tail feather perfect, while in that of the female the feathers were



The blind in place at the Great Crest nest.

broken and worn and had many of the barbs missing altogether. We supposed this to be due to the rubbing against the nest walls during incubation. The condition of the two tails is well shown in the photographs, Fig. 2 being of the male and Fig 3 of the female.

METHODS OF HUNTING.

Recalling their usual noisy manners, I rather expected them to make more noise about the nest than some of the other birds studied. On the contrary, they proved to be the least noisy of any of the passerine birds yet studied.

In hunting they spent a large percent of their time on certain low hanging branches in the neighboring trees. The male preferred one in a large honey locust, where he sat well in toward the trunk. The female chose similar branches in an ash and two box elders. One of the parents was invariably on one of these perches, from which he or she could watch the nest. Only occasionally did one of them select a conspicuous perch. When they did so it was either in the top of the nest tree or the topmost branches of a prostrate trunk near by.

The different methods of securing food were interesting and a short account of them follows. The data were obtained by watching from the blind and also from the surrounding timber with the aid of a pair of field glasses.

The greatest variety of food was secured in true flycatcher fashion, i.e., by watching for passing insects and darting after them from the chosen perch. After deducting the 109 unknown morsels of food, we have 307 fed which were identified. Thirty-one per cent[1] of these 307 morsels were taken on the wing and included flies, moths, mayflies, lady beetles, butterflies, wasps, dragonflies, and bees. We actually saw

[1] This figure and following per cent are based on the supposition that all of the individuals of the forms included as captured by these methods were taken only in the one way. Thus there may be some error, for the reason that we did not see all of the food secured.

some of each of these forms taken on the wing and their manner of life makes it probable that the majority of them were taken in this way. Some of these if not captured in the first dash, were not pursued further, but others, notably butterflies and moths, were followed until secured. Once a large bald-faced hornet came into the blind and succeeded in getting out just as the female came from the nest and alighted on a branch. She made a dash and captured him before he was fairly started. Flies, dragon flies, and bees were, as far as we observed, caught in very short dashes. The only lady beetle taken under our observation was one which had been crawling about on the bark of the nest-tree and which was captured as it flew away.

The second method was somewhat different, although the insects were still taken while the flycatchers were on the wing. This method was to hang on rapidly beating wings before a leaf or branch and pick insects from it. They were observed to secure larvæ, daddy-longlegs, long-horned grasshoppers, and some spiders in this way. Some of the spiders were found to be taken by the third method. Excluding spiders, the other forms which were observed to be taken only in this manner, total 103, or about 33% of the identified food. Some of the daddy-longlegs were picked from the outside wall of the blind.

The third method was a variation of the first. The Great Crests sat on a low branch until they saw an insect in the grass, when they would drop to the ground and secure it. (This does not include those picked from the grass without alighting.) Crickets, grasshoppers, beetles, and spiders were observed to be taken in this way. When they missed the insect, they never hopped or ran along the ground, but rose into the air and dove down into the grass again. One watched catching a grasshopper near the foot of the nest tree went through this performance several times before the prey was finally secured. Probably most of the three forms were taken by this method while spiders were also taken by the second.

The male on guard on his favorite perch. Note the perfect condition of the tail.

APPROACH TO THE NEST.

The study of these birds was made more difficult because of their silent approach to the nest. Other species previously studied made more or less noise in coming to the nest, but the Great Crests flew silently to some branch and then, after looking about, dropped to the nest opening and disappeared within. During the entire proceeding the only sound audible in the blind was the faint scratching of their nails as they entered the nest, and then it was too late to determine the contents of their beaks. This explains the large percentage of unidentified food in the table. Only by keeping a close watch on the three or four usual perches could one be sure of detecting their approach. They usually sat on these limbs for several seconds before entering the nest and could be held there for some time by a slight noise from the blind.

The female almost invariably came to the same branch and flew back to it on leaving the nest, but the male was more variable and had several perches, which he used according to the direction of his approach.

TABLE I. FOOD OF THE NESTLINGS.

FOOD.	J.4	J.5	J.6	J.7	J.8	J.9	J.11	J.12	To.
Fly	2	.	2	5	4	2	.	.	15
Moth	1	5	10	7	2	.	1	3	29
Green larvæ	.	16	17	25	23	5	.	2	88
Unidentified	.	15	19	24	16	14	5	16	109
Wasp	.	1	1	2	3	3	2	.	12
Long-horned Grasshopper	.	2	2	3	6	3	2	.	18
Dragon fly	.	2	3	3	2	1	.	.	11
Red Admiral butterfly	.	1	3	3	.	5	1	.	13
Lady beetle	.	2	1	.	.	.	.	.	3
Beetle	.	2	7	6	1	1	.	.	17
Daddy-longlegs	.	1	3	3	.	.	.	.	7
Grasshopper	.	1	7	18	5	.	.	3	34
Spider	.	.	5	18	5	.	.	.	28
Cricket	.	.	2	4	3	.	.	.	9
Egg shell (?)	.	.	.	2	1	3	3	.	9
Butterfly	.	.	.	1	1	2	.	.	4
Bee	.	.	.	4	1	.	1	.	6
Mayfly	.	2	1	1	.	.	.	.	4
Total	3	50	83	129	73	39	15	24	416

There were numerous species of flies in the undergrowth and trees and we were unable to determine definitely the species fed. We thought several times that we recognized robber flies, and once or twice saw the parents hunting among the cattle, around which the stable flies swarmed. The majority of the moths were small, dull colored forms, which we could not identify. Once or twice a large black species was brought, and once a medium-sized underwing (*Catocala sp?*) was given to the nestlings. Geometrid larvæ furnished the bulk of the larval forms, but many were fed which were clearly different, and yet they could not be named. The only wasp definitely referred to any species was the bald-faced hornet (*Vespa maculata*), caught as it flew from the blind. Only the individuals recognized as long-horned grasshoppers were placed under that head, all others being entered as grasshoppers. The red admiral (*Pyrameis atlanta*) was very common and seemed to be easily captured by the Great Crests. The other four butterflies were fritillaries (*Argynnis sp?*).

We were almost positive that on several occasions the nestlings were fed pieces of egg shell. Once while the blind was within three feet of the nest a piece at least one-half inch square was brought. It was broken and cracked and the shell membrane (?) could be seen holding the parts together. I suspected that this substance was egg shell and asked my wife (without telling her what I thought) if she had noticed it. She replied that she had seen it fed, but could not determine its nature. A day or two later she remarked that she had identified it and stated that it was egg shell. Whether the identification was correct or not, there was plenty of opportunity for the birds to obtain the shells, as two camps and the remains of innumerable picnics were near the nest.

FOOD, ACTIONS AND FATE OF THE NESTLINGS.

As the nestlings were in the nest cavity and not visible from the blind we could not determine the distribution of the food to them. The striking thing in the feeding, at least

to us, was the large percentage of larvæ fed. They comprised the largest single item of food, being 21.15% of the total. Grasshoppers under two heads in the tables, were 12.50%; spiders, 6.73%; moths, 6.97%; unidentified, 26.20%; red admirals, 3.12%; flies, 3.60%; beetles, 4.08%; hymenoptera (bees and wasps), 4.32%; and the remiander, 11.30%, were miscellaneous insects.

Although we did not keep continuous watch at the nest, we spent some time each day from the time of hatching until the departure of the young, except on the tenth. From the second to the fourth we were still too far away to determine the nature of the food, but we could see it projecting from the beak on almost every visit. We saw no evidence of regurgitation either here or at a phoebe's nest, which we watched for a few hours.

During the study we saw the parents carry away the excreta 41 times and devour it only once. Much of it was undoubtedly removed during our absence from the blind, but there must have been much of it devoured while the birds were concealed from our view in the nest.

The nestlings were very noisy and restless. They kept up a constant peeping from the first day. On July 7 one or more of them began to utter a loud clear call or whistle, *"twee-eet,"* which was occasionally answered by the parents from a distance. From this time we could hear the parents whistling while far away from the nest, but for the most part they remained as silent as ever.

On July 8 the nestlings began to climb restlessly about in the nest. We had cut the edge down a little in order to obtain a better view and there was a large natural crack to the bottom of the nest. They crawled part way up the sides of the cavity and fell back to the bottom again. On the morning of July 9 we found only three nestlings in the nest. A search revealed one dead at the foot of the tree; but the fifth was never found, although we hunted for yards around in the short grass. Several times on July 9 they fell out of the nest

and started away through the grass. Fig. 4 was taken at this time to show the feather development. Whatever the cause of this action they quieted down after July 10 and remained in the nest until July 14. Fig. 9 was taken on the afternoon of July 13 and they were gone the next morning at 7:00. At this time they were very active and, after trying for an

The female at the entrance to the nest. Compare the condition of the tail with that of Fig. 2.

hour to get them to perch on a branch, we posed them on the hand. The one on the left was not able to fly well, but the other two had gained good control of their wings.

As the nestlings were hatched on the evening of July 1 and left either late July 13 or early July 14, they were twelve or thirteen days old at the time of departure.

MISCELLANEOUS ACTIONS OF THE PARENTS.

There was a certain dignity about every action of the parents which could not fail to impress the observer. They never made any outcry as we approached the nest, but flew silently away, often no farther than the other side of the nest tree, and remained watching us. Even when the blind was erected there was no apparent excitement, but only a careful watch kept on it until they decided to accept its presence. This was in decided contrast to the actions of such birds as the Catbird and Red-winged Blackbird, which have the habit of arousing the entire neighborhood when a blind is erected at their nests.

When the nestlings were taken out of the nest on July 13 they made a great fuss and the parents answered them for a few moments. This noise soon ceased and the adults, particularly the female, made a desperate attack on our party, flying about our heads and at our faces. Finally, even this stopped, and the female alighted on a branch about fifteen feet away and kept silent watch of the proceedings.

We were much interested in the feeding of the nestlings while they were on the ground. On the afternoon of July 9 all three of them were out of the nest and the parents fed them repeatedly. Here we again notice that the adults never hopped or walked, but after feeding one flew to the next one, even if it was only a few inches away. After the young were placed back in the nest, both parents often flew into the grass in search of them.

The calls were few in number. We occasionally heard the usual whistle, sometimes given loud and clear, and at other times barely audible in the blind. The only other sound which we heard from them was a series of low notes used in the early part of the nestling period to get the nestlings to open their mouths. It is impossible for me to describe it, but it somewhat resembled the noise produced by drawing a rusty nail from a board.

When angry the Great Crest elevated his crest, and when

in pursuit of other birds snapped his mandibles together loudly and rapidly.

On some occasions the food given the nestling was too large for it to swallow. When this happened the parent removed the morsel and quickly crushed it by snapping the mandibles together on it.

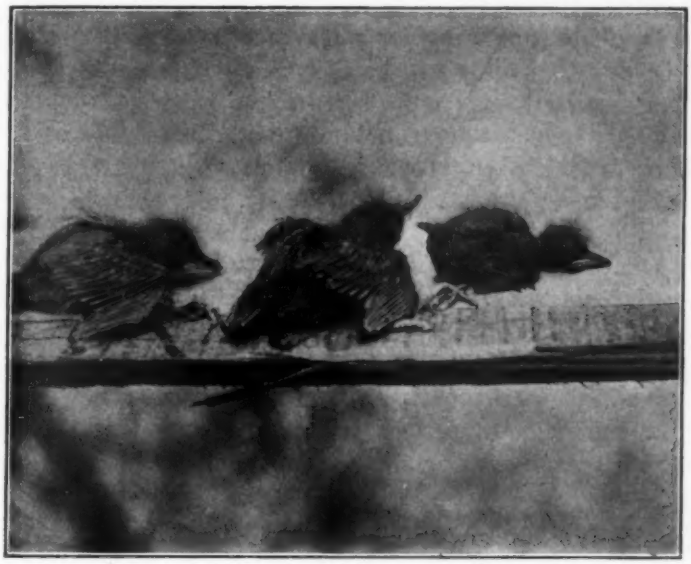
The parents never entered the nest together. Several times the female was at the nest opening when the male appeared on a limb above her. As he started to drop to the nest open-

The nestlings at the age of 8 days, showing the development of the wing quills at this time.

ing she flew away, allowed him to feed the nestlings, and returned to feed her morsel when he left. Once she was in the nest feeding when he appeared on the edge. He put his head into the opening and "screeched," at which she darted out and permitted him to enter.

The old rotten tree seemed to furnish a strong attraction to the woodpeckers and chickadees on account of the many larvæ under the bark. A Chickadee, Downy Woodpecker,

Red-headed Woodpecker, and Flicker came to the tree at various times. The woodpeckers were driven away by the Great Crests, but they paid no attention to the Chickadee. The Downy and Red-head tried the trick so often practiced by the Red-heads on the Kingbirds, when they meet along the country roads. Whenever the Kingbird discovers a Red-head on a telephone pole he immediately tries to attack him. The woodpecker simply dodges around the pole and goes on about his business. The Kingbird takes his position on a wire and goes to catching insects, all the time keeping one eye on the woodpecker. Sooner or later the Red-head starts for another pole and the Kingbird gets the chance he has been



The nestlings at 12 days. Taken July 13, the day before they left the nest.

waiting for all the time. Both the Downy and Red-head tried this trick on the Great Crests and successfully worked it as long as they only had one of the parents to contend with, but came off second best when the other parent entered the game.

A Cowbird came into the nest tree while the female was in the nest, sneaked to the nest opening and looked in. What she saw was evidently not reassuring as she quickly backed away and flew off.

A squirrel crossing the glade was vigorously attacked and made to scamper for refuge to the nearest tree. Once safely there he turned and expressed his opinion of the Great Crest in shrill and violent language.

The most vicious performance which I witnessed was an attack on an immature Bronzed Grackle. He blundered into the nest tree while the male was sitting on one of the topmost branches, and had hardly settled himself when he was struck a violent blow from behind and sent sprawling to the ground. He lay there squawking for a few moments and then started to fly away. Hardly had he lifted himself from the ground when another blow on the back of the head caused him to turn a complete somersault into a small bush. He crawled out on the side opposite the nest and flew away without being further molested. The Great Crest used both beak and wings in the attack and the second blow took several feathers out of the grackle's head.

A TWO-YEAR NESTING RECORD IN LAKE COUNTY, ILL.

BY COLIN CAMPBELL SANBORN AND WALTER A. GOELITZ.

(Photographs by Walter A. Goelitz.)

Lake County lies on Lake Michigan in the north-east corner of Illinois. That part of Lake County in which the following records were made, extends along Lake Michigan from the Illinois-Winconsin state line at the north, to the Cook County line on the south, and west about ten miles to the Des Plaines River, and in the northern portion, farther west to the McHenry County line. This territory may be divided into five separate tracts: (1), the sand dunes and marshes of Beach in the the north-east corner; (2), the bluffs

and ravines extending along the lake; (3), the Skokie Valley Slough, about two miles west of the lake, with its adjoining woods and fields; (4), the heavily timbered region in the Des Plaines River Valley, about six miles west of the Skokie; (5), and the prairie and lake country west of the Des Plaines River.

A very good description of Beach may be found in the "Auk," volume XXIV, number 2, in "Ornithological Conditions in Northeastern Illinois, with Notes on Some Winter Birds," by the late John Farwell Ferry. In the marshes of this region were found the Bitterns, Rails, Blackbirds, and Green Herons, and among the dunes, the Sparrows.

Along the shores of Lake Michigan extends a bluff, cut every mile or so by a ravine. It is, in some places, just a clay or sand bank inhabited by Bank Swallows and Kingfishers, while in other places it is covered by brush and a few trees. The beach varies in width from seventy-five feet to none at all. Most of this bluff property is occupied by residences, but in some places there are still fields, small groves of trees, and woods. In the brushy fields and groves the Yellow Warbler, Redstart, Wood Pewee, Towhee, Goldfinch, and Red-eyed Vireo nest, and in the thicker woods there are many Crows and a few Hawks.

The Skokie Valley Slough, which lies to the west, extends south from about the middle of the county, where it is only a few feet wide, to the county line, where it is more than a mile wide. Here in the Marsh proper were found the Bitterns, Rails, Red-winged Blackbird, Long-billed Marsh Wren, and Swamp Sparrow. In the fields and woods on either side there are Green Herons, Sparrow Hawks, Maryland Yellowthroats, Marsh Hawks, and the Sparrows.

Farther west is the Des Plaines River Valley, which region is heavily wooded. The Des Plaines River runs south the entire length of the county and is about eight or nine miles from the lake. It was here that we found most of our Hawks' nests, besides innumerable Crows' nests. Most of our trips to this region were made in the early spring.

Cedar Waxwing nest. Lake Co., Ill. W. A. Goelitz.

The land west of the Des Plaines River is mostly prairie, dotted here and there with small lakes, or a small patch of woodland. In this open country are Prairie Chicken, Killdeer, Black Tern, and many Vesper Sparrows.

Robins, Bluebirds, Woodpeckers, House Wrens, Brown Thrashers, Catbirds, and Blue Jays can be found anywhere where there is a suitable nesting site. Meadowlarks, Bobolinks, Song and Field Sparrows are in every field. Cedar Waxwings, Goldfinches, and a few Cuckoos can be found in brushy fields and second growths. At a small lake, Butler's Lake, were found the Yellow-headed Blackbird, Coot, Mallard, Pied-billed Grebe, and Florida Gallinule. These birds could not be found nesting anywhere else.

NOTE:—The numbers at the end of each paragraph represent the number of nests of each variety found, with eggs or young, in the two years.

1. Pied-billed Grebe (*Podilymbus podiceps*), July 2nd, 1915. Nest with seven eggs found at Butler's Lake. Merely a floating mass of decaying reeds. Situated in a thin growth of cat-tails. 2.

2. Black Tern (*Hydrochelidon nigra surinamensis*), July 2nd, 1915. Two sets of three eggs found at Butler's Lake. Nests were mats of reeds located among the cat-tails near the shore. The nests were easily found by the actions of the old birds when closely approached. 5.

3. Mallard (*Anas platyrhynchos*), July 2nd, 1915. The only nesting record we have, is a female and ten downy young, seen on a small lake in northwestern Lake County.

4. American Bittern (*Botaurus lentiginosus*), May 30th, 1914. On this date, a female was flushed from a nest containing four eggs. It was a platform of matted reeds over a foot of water, along the edge of the Skokie Marsh, just west of Highland Park. 4.

5. Least Bittern (*Ixobrychus exilis*), July 8th, 1915. Nest and five eggs at Butler's Lake, situated in a bed of dead reeds along the shore. Other nests, found at Beach on June 7th, 1914, with four eggs, and in the Skokie Marsh, on June 13th, 1915, also with four eggs. This bird is not as abundant in the extensive Skokie Marsh as at Beach and Butler's Lake. 12.

6. Green Heron (*Butorides v. virescens*), June 2nd, 1915. Nest at Beach in clump of willow trees. Made entirely of dead willow twigs and contained five eggs. We have been told that a pair of

Bobolink nest. Lake Co., Ill. W. A. Goelitz.

Black-crowned Night Herons formerly nested in this exact location. 2.

7. King Rail (*Rallus elegans*), May 19th, 1914. Nest with set of twelve eggs located in Skokie Marsh, five feet from a ditch of running water, and a hundred feet from a public road. Other dates May 23rd, 1914, eleven eggs; June 7th, twelve eggs; June 13th, 1915, two nests with eleven eggs each. 7.

8. Virginia Rail (*Rallus virginianus*), June 14th, 1914. The only nest found was in a small slough in the middle of a field. A small platform of reeds with two eggs. This bird and also Sora is very common during migrations, but is rarely seen in the summer.

9. Florida Gallinule (*Gallinula galeata*), July 2nd, 1915, a set of nine eggs, just hatching, and on July 8th, a set of four eggs, also hatching, were found at Butler's Lake. The females were flushed from both nests, which were masses of floating reeds. 2.

10. Coot (*Fulica americana*), July 8th, 1915. Many Coots seen on a small lake, but only one nest found. It was in a small open area, among the reeds along the shore, and held three eggs.

11. American Woodcock (*Philohela minor*), May 5th, 1914. Nest in the woods at Ravinia about 100 feet from a house, and seventy-five feet from an electric and a steam road. It was a slight depression at the base of a small tree in a bed of moss, lined with a few dead leaves. On May 6th, the nest was again visited—the eggs had hatched and the young gone. The Woodcock seems to be becoming more common in Lake County. 4.

12. Prairie Hen (*Tympanuchus a. americanus*), May 22nd, 1915. While visiting on a farm in the prairie country, a farmer showed us two nests of this rare bird containing 12 and 14 eggs respectively. They were in a hay-field a half mile from his barn, and a quarter mile apart. One bird flushed readily, while the other could almost be touched before leaving. The nest with 12 eggs was destroyed, but the other hatched safely. 2.

13. Mourning Dove (*Zenaidura macroura carolinensis*), May 22nd, 1915. A nest composed of a few sticks and containing two eggs was found on an island in the middle of Cedar Lake. 4.

14. Marsh Hawk (*Circus hudsonius*), May 18th, 1914. A set of five eggs found in a patch of weeds on dry ground in Skokie Marsh. Nest composed wholly of weed stems to form a pad about five inches thick. The same pair, supposedly, nested here this year, but the nest was flooded by a three days' raise of water.

15. Cooper's Hawk (*Accipiter cooperi*), May 9th, 1915. A nest was found on this date with one egg. On the seventeenth of May it held four eggs, and on the next visit on June 17th, two of the eggs were just hatching. The nest was about 45 feet up in a red

King Rail nest. Lake Co., Ill. W. A. Goelitz.

oak, and was built of sticks on top of an old crow's nest, and was lined with a few pieces of bark. 5.

16. Red-shouldered Hawk (*Buteo l. lineatus*). This is our most common hawk. We found eleven nests with eggs in two years. Earliest date for eggs is April 6th, and latest is May 21st. In climbing to these nests we were attacked only once.

17. Sparrow Hawk (*Falco s. sparverius*). May 8th, 1914, a nest containing five eggs was found about 20 feet up in a dead stub along the edge of a field. On May 19th, 1915, four eggs were taken from this same stub. There was a bluebird's nest above the cavity occupied by the hawks. On the 29th of June the cavity was occupied by a set of Flicker eggs. 4.

18. Screech Owl (*Otus a. asio*). May 20th, 1914, a nest containing two bad eggs and one young bird was found in a natural cavity in a red oak. The tree was in the front yard of a home in the center of Highland Park. 1.

19. Yellow-billed Cuckoo (*Coccyzus a. americanus*), July 26th, 1915. Nest was nine feet up on a horizontal branch of a Hawthorn tree. When the nest was first found, it contained one egg, and was so thin that the egg could be seen through the bottom. On the 26th the nest held a full set of three eggs, and was much thicker than when first found, showing that eggs are sometimes laid before the nests are completed, and also that the laying of an egg does not stop the birds from completing the nest. Made of twigs and grass. 2.

20. Black-billed Cuckoo (*Coccyzus erythrophthalmus*), August 10th, 1914. A nest was found in oak scrub, about four feet up, and contained two young, which were about half grown. The nest was a conical structure of twigs lined with a thick pad of oak leaves. A few years ago a nest was found containing three eggs of the Black-bill and one of the Yellow-bill. 4.

21. Belted Kingfisher (*Ceryle alcyon*). The only nest of this bird found was destroyed by the slumping of the bluff along the lake during a heavy rain.

22. Downy Woodpecker (*Dryobates pubescens medianus*), June 10th, 1915. Two young just out of the nest, were found on the ground at Ravinia. The Downy is rather an uncommon summer resident in Lake County.

23. Red-headed Woodpecker (*Melanerpes erthrocephalus*), June 7th, 1914. Set of five eggs found in hickory stub in vacant lot between two houses. A queer set, with one runt, one normal, and one extra large egg was found on May 25th, 1914.

24. Northern Flicker (*Colaptes auratus luteus*), June 12th, 1915. A large set of 12 eggs, one of which was a runt, was found on

Bittern nest. Lake Co., Ill. W. A. Goelitz.

this date at Beach. The nest was about twenty feet up in a pine stub. Besides this two large sets of ten have been found in former years. 10.

25. Chimney Swift (*Chætura pelagica*), June 22nd, 1915. Nest and five eggs found about four feet down in a chimney. The female would not leave the chimney, but remained clinging below the nest. 4.

26. Ruby-throated Hummingbird (*Archilochus colubris*), June 25th, 1915. Nest about 35 feet up in white oak tree. Six feet above it was a Redstart's nest with two eggs. Nest made of plant down, and covered on the outside with lichens. On the 23rd the nest limb was cut off at the trunk, but as the nest contained only one egg, the limb was wedged tightly between two branches and when revisited on the 25th the female was found sitting on two eggs, despite the fact that the nest had been moved three feet. 1.

27. Kingbird (*Tyrannus tyrannus*), June 10th, 1914. Three eggs were found in a nest in the top of apple tree. The nest was made mostly of grass. Another nest was found on a horizontal oak limb, which also had three eggs. 6.

28. Crested Flycatcher (*Myiarchus crinitus*), June 2nd, 1915. The only nest we have been able to locate, although this bird is common throughout the county, was in a natural cavity forty feet up in the broken top of a red oak. The three eggs were stained yellow as if there had been a fourth egg which had been broken. The nest contained the usual piece of snake skin.

29. Phœbe (*Sayornis phœbe*), May 4th, 1914. Nest composed of moss, grass, and mud, plastered on a jagged rock in culvert. Five eggs. This nest was collected and then the birds succeeded in raising two broods. They nest in this culvert every year. 10.

30. Wood Pewee (*Myiochanes virens*), June 28th, 1915. Thirty-two feet up in the horizontal crotch of a white oak, a nest was found; made of grass and covered with lichens and cobwebs. It contained three eggs. 12.

31. Blue Jay (*Cyanocitta c. cristata*), June 15th, 1915. While searching for a Migrant Shrike nest, we found this Blue Jay nest, which held six eggs, about ten feet up in a hawthorn tree. Another set of six eggs was found May 2nd, 1914, in a thick cedar tree. 25.

32. American Crow (*Corvus b. brachyrhynchos*), April 9th, 1915. A nest was found in a leaning oak tree, made of sticks, grass, and horse hair, and held the rather unusual number of seven eggs. At least fifty nests found in two years.

33. Bobolink (*Dolichonyx oryzivorus*). On June 2nd, 1914, we found a dark chocolate colored set of six eggs in a nest of grass,

lined with horse hair, and placed on the ground at the base of a clump of clover. On June 12th, 1915, another nest containing six light gray eggs was found. 10.

34. Cowbird (*Molothrus a. ater*), May 14th, 1914. A Towhee nest found on this date, contained one Towhee egg and eight Cowbird eggs. About fifty of the nests found during 1914 and 1915 held Cowbird eggs.

35. Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), July 2nd, 1915. The only nesting colony of these birds found is at Butler's Lake, where on this date, a nest with four eggs was found. It was composed of dead marsh grass, woven about several reeds to form a basket. 7.

36. Red-winged Blackbird (*Agelaius p. phœniceus*), May 23rd, 1914. A colony of thirty pairs was located in a small slough just off the Skokie Marsh. On June 5th, 1915, a nest was found which held five badly incubated eggs. At least 200 nests of this very abundant bird have been found.

37. Meadowlark (*Sturnella m. magna*), May 5th, 1914. Nest and six eggs found in the Skokie Valley. All nests found here have had the entrance on the south side. 8.

38. Baltimore Oriole (*Icterus galbula*), June 5th, 1914. A nest containing young was found in a maple tree 20 feet up, along a roadside. Another nest was seen while being built, on May 23rd, 1915. 4.

39. Bronzed Grackle (*Quiscalus quiscula æneus*), May 23rd, 1915. On an island in Cedar Lake were found nine nests, all of which contained young. Eleven nests were found on this island last year. 20.

40. English Sparrow (*Passer domesticus*). One nest on May 14th, 1915, held six eggs and was built in a cavity in an oak tree, from which they had driven a pair of Bluebirds.

41. Goldfinch (*Astragalinus t. tristis*), August 27th, 1915. Nest in a sumach bush in a brushy field, containing six eggs. It was made of fine grass and thistle-down, woven very compactly together. Earliest date for eggs July 21st, and latest September 2nd. 30.

42. Vesper Sparrow (*Poœcetes g. gramineus*), July 16th, 1914. In the corner of a bunker on the Old Elm Golf course, a nest with four eggs was found. Although many players passed here daily, these eggs hatched safely. 3.

43. Chipping Sparrow (*Spizella p. passerina*), June 12th, 1915.

This bird is very uncommon in Lake County, so we were very much surprised to find three nests at Beach. One held three

young, and the others, three and four eggs respectively. A number of old nests were also found.

44. Field Sparrow (*Spizella p. pusilla*), May 9th, 1915. A female was flushed from a nest and four eggs, in a small hawthorn bush six inches from the ground. A rather late date for eggs of this bird is August 14th, when a nest with one fresh egg was found. 7.

45. Song Sparrow (*Melospiza m. melodia*), May 30th, 1914. Nest containing 5 eggs and one Cowbird egg was seen in a bed of dead weeds along the Skokie Marsh. Late date: nest and four eggs July 20th, 1915. This and the former are, outside of the English, our two most common sparrows. 6.

46. Swamp Sparrow (*Melospiza georgiana*), June 11th, 1915. Five eggs. Nest composed entirely of grass and deeply hollowed, situated in dead cat-tails about one foot above the ground. These birds are very plentiful in the Skokie Marsh, and their nests are extremely hard to find. 11.

47. Towhee (*Pipilo e. erythrophthalmus*), August 9th, 1914. We found this nest while looking for Waxwings. It was two feet up in a clump of hazel bushes, and held three eggs. We have noticed that the early nests are placed on the ground, while the later ones are always elevated. 5.

48. Cardinal (*Cardinalis c. cardinalis*), June 10th, 1914. Nest in elderberry bush, about six feet up, containing three eggs. About five years ago, a pair of Cardinals appeared in Highland Park, and since then, they have been increasing so that now there are at least five pairs breeding here every year.

49. Rose-breasted Grosbeak (*Zamelodia ludoviciana*), May 18th, 1914. The only nest of this bird found was in a hawthorn tree ten feet up. It contained three eggs and two Cowbird eggs. These birds are scarce in this locality.

50. Indigo Bunting (*Passerina cyanea*), July 26th, 1915. Nest one foot above the ground in a clump of weeds beside a field of wheat, containing three badly incubated eggs. A scarce bird most years in Lake County. 2.

51. Scarlet Tanager (*Piranga erythromelas*), July 17th, 1914. This bird is about as common as the Rose-breasted Grosbeak. The one nest found was on the end of an oak branch, and held three eggs.

52. Purple Martin (*Progne s. subis*), July 15th, 1915. There were both fresh eggs and young birds, ready to fly, in a house, which we examined today. There are many colonies of these birds about here, and they take very quickly to the houses put up for them.

53. Cliff Swallow (*Petrochelidon lunifrons*). The only colony which we have discovered in Lake county is on a barn a few miles west of Highland Park. The birds were fairly common here five or six years ago, but the English Sparrows are rapidly driving them away.

54. Barn Swallow (*Hirundo erythrogastra*), June 12th, 1915. Of the many colonies found, the most interesting was in a lumber shed near Waukegan. We counted twenty-five new nests and as many old ones. A set of six eggs was found here.

55. Tree Swallow (*Iridoprocne bicolor*), May 23rd, 1915. Two nests were found on this date: one of which contained one egg, and one which was being built. The birds have come to our attention only lately, and have been found to be more common in open country to the west than along the lake. At all nests the birds showed no signs of fear. 4.

56. Bank Swallow (*Riparia riparia*), June 2nd, 1914. At this date only incomplete sets were found in a large nesting colony of these birds in the bluff near Lake Forest, where they have nested, to our knowledge, for the last ten years or more. There are about 150 pairs in this colony.

57. Cedar Waxwing (*Bombycilla cedrorum*), July 26th, 1915. A nest found at Ravinia on this date contained six eggs. They breed very commonly here in brushy situations. Other dates are two sets of five each on August 2nd, 1915, and two other sets of five on August 4th, 1915.

58. Red-eyed Vireo (*Vireosylva olivacea*), June 17th, 1914. Nest found in thick wood on edge of Skodie Marsh in fork of witch-hazel bush, and contained three young and one Cowbird. This was the only nest we found where the young hatched. All the others were deserted because of the Cowbird eggs laid in them.

59. Warbling Vireo (*Vireosylva g. gilva*), July 2nd, 1915. We first met with this bird on May 23rd, 1915, when it was heard singing. Not recognizing the song, we hunted the bird out with some difficulty, and found this Vireo. On July 2nd, 1915, while visiting at the same place, we were shown a Vireo's nest, about 35 feet up in an oak tree, which proved to be a Warbling Vireo's nest, and held one young bird, just ready to fly. About a mile from here a bird was heard singing a number of times, but no nest was found.

60. Yellow-Warbler (*Dendroica æ. æstiva*). On June 13th, 1915, two nests were found with four eggs each. These birds are very abundant breeders in the brushy fields along the lake bluff and the Skokie Marsh. This warbler, the Redstart, and the vireos seem to be imposed upon by the Cowbird more than the other birds. 12.

61. Oven-bird (*Seiurus aurocapillus*). We have been unable to find a nest of this bird, although they are common enough in the deep, damp woods throughout the county. On June 29th, 1915, however, we were attracted by the distress cries of a pair of Oven-birds, and found the cause to be a snake which had eaten one young bird and was getting ready to catch another which was perched on a nearby bush. The nest from which they had flown could not be found.

62. Maryland Yellow-throat (*Geothlypis t. trichas*), June 17th, 1915. Nest situated on dry ground in bed of weeds; made of grass, lined with horse hair, and contained five eggs. Another nest with three eggs and two Cowbird eggs, was placed six inches above a foot and a half of water in some cat-tails. The Yellow-throat is abundant throughout the Skokie Marsh, but the nests are rather difficult to locate in the deep grass. 3.

63. Redstart (*Setophaga ruticilla*), June 22nd, 1915. A nest with three eggs was found in some hazel bushes along a well traveled road. It was about six feet up, and could easily be reached from a wagon on the road. This warbler nests commonly in Lake County, and places its nest anywhere from three to forty feet above the ground. 9.

64. Catbird (*Dumetella carolinensis*), June 9th, 1915. A set of five eggs was found about three feet up in some thick brush; nest of twigs lined with weeds and grass. Another set of five was found three years ago. This is a very common bird in this locality.

65. Brown Thrasher (*Toxostoma rufum*), May 22nd, 1914. A nest located on the ground in a patch of may apples held five eggs. In our experiences, sets of five have been very common in the last two years.

66. House Wren (*Troglodytes a. aëdon*), June 3rd, 1914. A bird house placed in a front yard held seven eggs on this date. They nest very commonly in houses put up for them. 12.

67. Long-billed Marsh Wren (*Telmatodytes p. palustris*), June 15th, 1915. In the middle of the Skokie Marsh on this date we found a nest of the usual globular shaped construction of cat-tails, which contained seven eggs. This wren is very abundant in all the marshes. On June 12th, 1915, out of the fifty nests examined on Beach, only ten contained eggs. 25.

68. Chickadee (*Penthestes a. atricapillus*), May 15th, 1914. A nest with two eggs was found in a stump two feet above the ground. Many holes are partly excavated or even lined with feathers or hair every spring, but rarely any eggs are laid.

69. Wood Thrush (*Hylocichla mustelina*), May 30th, 1914. Two nests, each about eight feet up in saplings, on the edge of the Sko-

kie Marsh, held four eggs and one Cowbird each on this date. The Wood Thrush is a fairly common breeder around here. 6.

70. Robin (*Planesticus m. migratorius*), May 8th, 1914. Nest with four eggs. Very common breeder. 25.

71. Bluebird (*Sialia s. sialis*). One pair of birds laid three sets of five eggs on the following dates, in the same place, when they were robbed: May 4th, May 19th, and June 27th, 1914.

THE CHRONICLE OF A TAME OLIVE-BACKED THRUSH.

BY CORDELIA J. STANWOOD.

One day while following a trail through the woods that lead to a boiling spring, I came upon the nest of an Olive-backed Thrush in a low fir. The bird was lining it with dead leaves. The following day the nest was completed, and in due time the bird was brooding four beautiful green-blue eggs, speckled with golden-brown. I visited the nest when it was time for the young to appear and found four nestlings. When the young would be about ten days old (July 10, 1909) I started for the spring once more, both hope and fear contending in my soul. The nest was more or less exposed. The nestling bird has many foes.

Although I made good time, it seemed as if my feet were weighted with lead, so doubtful was I of the sequel. When I actually beheld four sturdy young Thrushes in the nest I could scarcely believe that what I had been anticipating so long had actually come true.

In order to learn as much as possible about the Olive-backed Thrush, I had planned to take a young Thrush home for a time, if I were so fortunate as to obtain one. The nestlings were already standing to strengthen the legs, as young Thrushes and Robins do at times, one or two days before leaving the nest. It seemed wise to leave my Thrush in the nest as long as practicable. Still there was every indication of a storm. The nest was more than a mile from home. If I did not secure a nestling at once, it seemed doubtful if I

should have another opportunity, yet they made such a goodly picture in the nest that I could not bear to disturb them. After debating the question a few minutes, I concluded to borrow a Thrush.

There was no choice of nestlings. As I reached out my hand toward the nest, the four hopped over the side in different directions, each giving vent to a startling chirp. I pursued the one that sped up the pathway and thought myself very fortunate to overtake him.

The parent birds came to the succor of the young immediately with cries of *whit! whit! whit!* but remained in concealment. I placed the little bird in the corner of the grape basket which I carried and covered him with my handkerchief. He began to call *schree!* in a sweet, silvery whistle, and struggled to get free. It was almost 9 o'clock in the morning when I made the capture. The day was hot; I was obliged to go home by a longer way as there was another bird's nest to visit. I set out with trepidation.

Upon finding some strawberries in a hayfield I took the little bird out of the basket to feed him. He trembled, relaxed his claws, closed his eyes and nestled in my hands. After this we walked a number of miles through the woods, the little bird standing on the edge of my basket, or on my sleeve. Sometimes I put him down on the ground while I let him catch mosquitoes. Once or twice he dodged under a leaf or hid in the grass, but these were the only indications of fear that he now showed, aside from the fact that he refused to open his beak for food. He ate two strawberries, taking them bit by bit with the tip of his nib.

It was noon when we reached the house. I stood the Thrush on the sill of a screened window. Seizing an ant's egg,[1] a bit of earthworm, or a piece of grasshopper with the tips of the scissors, I tried to tempt the little bird to eat. He did nothing but call lustily. Then I placed him on my knee,

[1] **At this date the grasshoppers are just beginning to come. Most of them are under a half inch in length. Ants' eggs are very plenty.**

put my hand around him and moved the tempting morsel in a circle around his beak. It was of no use. The bird continued to make a loud, automatic chirp.

I, too, was troubled. Suppose that he should starve to death! If I carried him back to the woods, would the parent birds be in the vicinity of the nest? Thus I meditated. Still the little fellow refused to eat.

In the meantime a child came who begged me to visit a nest which she had found in a hayfield more than a mile and a half distant. I argued that the little bird would not eat until he became sufficiently hungry. I could not hurry the matter by standing by. I went with Dorothy.

It was 4:30 p. m. when I returned. I sat on the mat where the food was in the middle of the room and took up the scissors. The moment that the Thrush heard the scissors click he flew from the windowsill to the floor and opened his beak for food. He ate two earthworms, cut up into bits, then he perched on my knee and preened his feathers, pulling off fragments of the quill casings. In the future he never hesitated to take food when he was hungry.

As it began to grow dark the Thrush mounted the lilac branch which I had placed for a roost in a large packing box in the corner of the room for him, laid the tips of his beak on his wing and went to sleep.

At 3:30 the following morning the little visitor began to call for food. I carried him to a spring not very far from the house, but he was not ready to bathe. He hopped around while I dug earthworms, and ate four with a relish.

Yesterday, instinct prompted the little bird to hide among the grasses and under the leaves; today, instinct prompted him to perch high in a tree. Here he slept as if he were a part of the great out-of-door world. After eating he always took a nap. The second evening, when the Thrush went to roost, he really tucked his beak under his wing.

At this stage the Olive-backed Thrush has large, intelligent, hazel eyes that look black in shadow; he is exquisitely colored. The upper parts are olive, speckled with golden-buffy;

the underparts are buffy on the throat and breast, and silvery-white on the belly. The breast and belly are spotted with black. The feet and legs are a mixture of flesh-color and brown-gray. Speaking colloquially, the legs of the Olive-backed Thrush are very long in proportion to the body. The beak is brown-gray, and the throat is lined with a rare golden-yellow. The bird is light and graceful in all his motions.

On the third day of his sojourn in a strange land, the Thrush perched on my hand and snuggled against my throat. When I wrote in my notebook, he insisted on standing in the book. I caressed him; he then perched on my arm.

It took me four days to teach the young bird to bathe in the basin of water in the house. Although I put pebbles in the bottom for him to stand on, he always looked askance at that basin. At last, however, he consented to take a thorough bath and flapped his wings vigorously. (I have since found that young Thrushes will go to a brook and bathe on sight of the water after they have been out of the nest a few days.)

The fifth day was, perhaps, the most memorable of all these days with the wonderful little Olive-backed Thrush. On this day he sang a baby Thrush song several times. It was not complete and very husky, but it was most fascinating. I could barely catch the strains in the adjoining room. A person would never notice it in the woods.

Again, while I was writing in my notebook the interesting facts of the day, the Thrush flew from the window, alighted in my book, and began to peck at my pen. I suppose that he mistook it for the scissors with which I fed him, but it looked as if he wished to keep me from writing. His next move was to back across the page until his tail feathers touched my hand. I smoothed his feathers with one finger — his favorite caress. Then he turned and presented his breast. I thought that the whole pretty scene might have been an accident. Twice I returned the Thrush to the window sill and the second and the third time he came in like manner. At last he perched on my shoulder, but continued to chirp for attention. After this, whenever opportunity offered, he came to be petted.

This same day he picked up ants' eggs from the floor, likewise an ant, and showed an automatic tendency to pick up everything.

Each time he picked up an egg I said "good," and he made a little squeal of delight. It seemed as if he waited for me to say "good" each time before taking another egg. When he picked up anything his manner was most ludicrous. First he opened his beak far too wide, then he twisted his mandibles awry while he examined the morsel first with one eye, and then with the other, while he kept up an excited twitter, just as young birds do when the parents carry food to the nest. The little squeals of delight, coupled with the acts of the baby Thrush seemed to say nothing less than "Do you see what a brave boy am I?"

As time went on, he ate larger and larger numbers of ants' eggs. One day when I was out, he picked up thirty ants' eggs from the windowsill; on my return he flew into my basket, selected a grasshopper and ate it. He cared less for earth worms as he grew older.

During the outings that the Thrush and I frequently took, he bathed in the brook and nibbled off bits of grass and plants. He occasionally picked up an earthworm. When he heard a noise or a strange sound, he laid his feathers very flat, and strained up his neck to listen. At such times he looked very small and wild. His sunbaths were always short. He preferred the shade after a minute.

The Thrush was constantly doing interesting things. One evening he begged for a high perch. I tacked a second lilac branch over a door and he was satisfied.

On another occasion he pecked at the handle of the little silver spoon in his cup of water. It gave a ringing sound. He repeated it several times. I think that he went to the cup for water as some tame Thrushes that I had later used to peck at the cup when they wanted water, and at the paper containing steak when they wanted steak.

While he was with me, a terriffic thunderstorm, accompanied by rain and hail, seemed to come from three directions

and meet over the house. The wind lashed the branches of the trees. The young Thrush, perched in an open window, sang his Thrush song over and over during the storm.

The day after the thunderstorm I entertained a caller for nearly two hours. The Thrush became so excited that he sang all the time that my friend was present. From that time on he sang very little.

One morning I left a basket of fragrant, old-fashioned roses on the couch. They were across the room from where the Thrush cuddled half asleep. He flew to the bed, hopped all around the roses and pecked softly at leaves, buds and petals. He acted as if he were caressing the petals with his beak.

When the Thrush was eight days old, he ate so much that the united efforts of the children and myself were not sufficient to keep him in fresh insect food. I began feeding him some steak. He was very fond of it, as well as bread and milk. After eating, he usually gave several comfortable little grunts. Always when he had sufficient food, he ran rapidly away.

After studying the Thrush twelve days in the house, the thirteenth morning I placed him in a bit of evergreen woods above a swale with a brook running through it. Here I cared for him while he learned the ways of the wood folk.

I purposely did not give the Thrush much food as I knew that his salvation depended on his own exertions. I fed him once in about three hours.

In the afternoon I was at the spring with some friends. The Thrush heard our voices and in a moment drifted like a bit of thistle down to the shoulder of one of the young ladies.

We fed him and he caught mosquitoes and grasshopers for our delectation. When he caught a grasshopper he tore the legs and wings off before eating it.

It is surprising to see what the woods will do for a young bird. The Thrush learned in one day to use his beak with great rapidity and precision. He flew into the air a foot for mosquitoes and sometimes a yard or more for other insects. He ate so rapidly that I ceased feeding him with the scissors.

At 8:00 p. m. I went to the pasture and placed the Thrush on a high perch. He made many changes. It took him a long time to select a satisfactory roost. It was characteristic of the bird.

I usually found the bird in the vicinity of the clump of evergreens where I first placed him. In the beginning he flew to me and begged for food. I let him follow while I went to hunt for grasshoppers. He showed a tendency to keep to the cover of bits of brush, small bushes and clumps of ferns and bracken. The bird caught mosquitoes, picked up moths, ants, grasshoppers and spiders continually.

Later the Thrush waited to be called. When I said "Come, Pet!" he answered *chu! chu!* in a mere whisper.

One evening it was dark and foggy at 7:40. The wind was south of east. There was rain in the air. The Thrush begged so hard for food that I had to go over the clumps of hay scented ferns on my hands and knees to find the grasshoppers hiding at the bottom. He killed everything that he ate. He spent a very long time oiling his feathers, which confirmed me in the opinion that it would rain before morning.

Finally, he insisted on following me home. Three times he perched on my head. At last I ran and hid behind some bushes and under this cover escaped. I spent fifty-five minutes in a futile attempt to put him to bed. The next morning the Thrush was dry, although there were fog showers during the night. He was feeding, but came at my call. I then introduced him to ant hills.

At dawn the next day, before I arose, I heard a noisy rout of Crows in possession of the pasture. (I suppose that they were feeding on grasshoppers, which were common this year.) I hurried to the brook and called and hunted for the Thrush for more than an hour before he answered. He was very frightened and had hidden in a high pine.

I felt that the tame Thrush was thoroughly educated. He knew where to drink and bathe, where to find mosquitoes, moths, spiders, ants, ants' eggs, grasshoppers and earth-

worms. The wealth of a strong, young bird was at his disposal.

It was 8 in the evening of our fifth day out-of-doors. The woodlands were full of Olive-backed Thrushes and Hermit Thrushes that had come down to the swale to drink and bathe with the Robins. I called the Thrush a full half hour before he answered me in the usual grove. He came reluctantly. He was nearly as large as a full-grown bird. His tail was two inches long. When I called, the woods seemed alive with Thrushes. To my "Come, Pet!" the Hermits responded *chuck! chuck! p-e-e-p!* and the Olive-backed answered *whit! whit! whit! whit-ye, whit-ye-er!* The Thrushes were in full song. The warm, misty, moonlit woods fairly palpitated with their wonderfully beautiful strains.

The young Thrush partook of thirteen small grasshoppers. As I put him on a high perch for the night he floated out into the swale. I looked for him carefully in the low spruce where he seemed to alight. He was not here, but I heard the plashing of his wings in one of the sedgy little pools. The Olive-backed Thrushes called persistently, insistently, a few feet from where I stood.

The moonlight, the mist, and the birds were bewitching, but it was growing late and I had to tear myself away.

After this exeprience I called and hunted for the Thrush several days, but he never came again to my summons. He had heard "the call of the wild" and responded!

HOUSE WRENS AS I KNOW THEM.

BY MARY E. HATCH.

I have always been especially fond of birds, but particularly is this true of the little house wren.

While I watch eagerly each spring for the return of the birds, and rejoice in seeing each new species come back, yet there is a little more joy experienced upon seeing my favorite wrens once more than in beholding all the others.

Usually I have been content merely to watch the wrens in their nest building; their squabbles among themselves and with other birds, becoming their protector when necessary. Truly, these little mites are most companionable, original and amusing.

However, in the spring of 1912, I had both an unusually good nest for closer observations and the time to devote to it. This particular box was not the bird's first choice by any means. Three others were tried, only to be given up, and when it was accepted finally, some of the twigs taken to the other boxes were laboriously hauled out of the little holes and carried to this new nest box, notwithstanding the fact that twigs were to be found in abundance within a few feet of the accepted box.

The nest was begun May 4th and the first egg was laid May 12th. One egg each day was deposited in the nest, until there were eight. They began to hatch the 30th—one each day for seven days. The eighth never hatched.

Tiny spiders were fed to the young wrens first; then very small bugs; then larger ones; and finally beetles, crickets, larger spiders, moths, worms, etc., were crammed into the yawning mouths. The fledglings grew very fast, leaving the nest the 18th of June.

The very next day the same pair of wrens began a new nest in another box on the same porch. The first egg was laid the 23d, which shows the birds were not so fastidious in its construction, for it took but four days to complete it, while the first required eight. Five eggs were laid this time, and five new wrens began to shift for themselves in the course of two weeks or so.

Wrens will build near your house or within a shed if there is any chance to get into it. They do not always demand a carefully made nest box. In fact, sometimes they seem to prefer simpler quarters. One year I placed a branch from a tree in my summer kitchen, and at its end had a good box with a door the size of a quarter of a dollar in it. I find this size is just right to admit wrens and shut out sparrows.

This arrangement was all right so far as the path to the nest went; but, instead of building in the box, the birds went a little beyond and built upon an overturned scrub brush lying on the scantling.

I know of a pair once placing their nest in a clothespin basket and on top of the clothespins. Of course they were left unmolested to raise their brood. Another built in an empty syrup can.

I find wrens like to have a good approach to their summer homes. They appreciate a ledge, limb, or anything upon which they can first alight.

This year (1915) I had four nest boxes—two under porches and two in trees. The one in the arbor vitae tree was chosen first; then one on the back porch; then one on the front porch; but the one in the elm tree, for some reason, was not used.

There was something about the nest on the back porch that was not altogether satisfactory, for they began a nest there several times, but left to start new ones within the cornice of the roof. These places were one after the other boarded up, thus shutting them out; and finally they began on the porch nest in earnest. They raised six birds here, and found porches so satisfactory, they took the other one for their second nest, where they raised but three birds.

The largest brood any of my birds has ever had is seven; but a neighbor had nine in one nest this summer. My last brood left here July 31st—somewhat late; but there was one in another neighbor's yard that stayed until August 20th.

Wrens are most sociable, and show very plainly that they like people. They seem to enjoy the coming and going—even though the screen door bangs quite often. During those days when they are feeding the little ones, they do more or less scolding of the people whom they have adopted; but do we not likewise grow impatient and irritable with our best beloved when we are busy, anxious and harassed? With all our faults they love us still; and will build nests about us every season if we put up boxes, drive away cats, sparrows

and other enemies—thus showing them we are interested and want them for neighbors.

McGregor, Iowa.

AN UNINTENTIONAL BIRD PRESERVE.

BY C. W. G. EIFRIG.

Some twenty-eight years ago Mr. Edward C. Waller, of River Forest, bought a tract of a hundred acres of land in the northern part of this village. This is now one of the finest suburbs of Chicago, being separated from the metropolis by Oak Park, another beauty spot in the outskirts of the great city, but at that time largely a more or less swampy prairie. Although bought for the sole reason to be later on sold again, Mr. Waller immediately started to improve the land by planting great quantities of fine shrubs and trees on it, in straight lines, to border the streets that would later have to cross the tract, and in irregular groves and clumps. Nearly all native species of shrubs and trees that can be enumerated, together with many exotic ones, found places in this new beauty spot. It is even said that the owner bought out two nurseries to get enough material. Although at that time houses were few and far between, yet the owner soon found that men and boys would come and cut down some of his largest trees for firewood or other purposes, and the evergreens, probably, for Christmas trees. To stop this he erected an eight-foot barbed wire fence around the tract of eighty acres, which is now between Chicago Avenue and Division Street, north and south, and between Lathrop and Park Avenues, east and west. Several men were employed summer and winter to keep the place in order. A house and barn are in the center of the tract. All this has now, after a quarter of a century, resulted in as fine a private park and botanical garden, so to say, as can be imagined, as idyllic a spot as can be made away from hills or mountains and in the absence of brook, pond or lake. For perfectly idyllic conditions of scenery these are undoubtedly indispensable. In May and June especially the many species of *spiraea, lonicera,* lilac,

viburnum, forsythia, barberry, Japanese quince, and many others bloom at their best and waft their fragrance through the air; when the buck-eye and catalpa illuminate the foliage with their exquisite candelabra of white and vie for first place in the race of beauty with double-flowering cherries and crab-apples, with the lovely pink of the red bud or Judas tree flaming up in between, it is certainly an aspect of fairy-like beauty.

Then also the birds are at their best. For the selfsame fence that has proved the salvation of the trees and bushes in the fairy garden, has likewise kept out men and boys with guns, and the house cat is also practically unknown. This gives the birds the privacy and security, which they cherish so much; furthermore, the many fruiting shrubs and trees supply all necessary food for those that care to stay. While the number of migrants, though large enough, is not as large as it would be if the Desplaines River, with its wooded banks and its south and north course were not so near, the number of nesting birds is abnormally large. A census of them made June 3d had the following results: Six Bluebirds, 8 Robins, 18 Brown Thrashers, 8 Catbirds, 11 Field Sparrows, 2 Song Sparrows, 4 English Sparrows, 1 Goldfinch, 4 Cowbirds, 5 Baltimore Orioles, 3 Meadowlarks, 4 Bobolinks (near the north fence, where large pastures adjoin), 1 Nighthawk, 10 Flickers, 1 Red-headed Woodpecker, 6 Blue Jays, 1 Crow, 5 Wood Pewees, 1 Red-eyed Vireo, 4 Chimney Swifts, 6 Mourning Doves, and 1 Pheasant (probably Mongolian), a total of 108 pairs. While in some cases the same bird may have been counted twice, or in others, as in the Doves, both birds of a pair counted, yet I feel convinced that the result is rather below the truth than above. Undoubtedly there are more Redheads, Vireo, Crows and Blue Jays nesting than we counted; probably also more Goldfinches, and I think Indigo Buntings, Cuckoos and Cedar Waxwings have added themselves later to the list. Besides, we saw a Willow Thrush, an Olive-sided Flycatcher and a Woodcock, which did not nest there, as likely also as not the Nighthawk and the Pheasant. On the morning in question, we also did not see

Bachman's Sparrow, of which a pair or two were here and no doubt bred, having been seen by the writer repeatedly from May 9th to July 2d.

Professor W. W. Cooke, of Washington, writes me that the number of nesting birds for "Waller's Park" is higher than the average for this vicinity. This shows again what protection does for birds, unintentional even as it was and is in this case. I may add that the method used in getting the above result was the one advocated by the Biological Survey of the Department of Agriculture at Washington, viz. several observers went through the tract, beginning at 6 o'clock in the morning until finished, walking in paralliel lines, the supposition being that at that time of the year and in that part of the day the birds seen will be males—as was borne out by this census in the case of those species in which the sexes can readily be told—and each male representing a breeding pair.

River Forest, Illinois.

FIVE HOURS ON BUTLER'S LAKE, LAKE COUNTY, ILL.

BY WALTER A. GOELITZ.

This lake covers from thirty to forty acres and is surrounded by a few wood-lots, pastures, house yards, and a public road. The margin is shallow and swampy, with cat-tails and reeds extending in from twenty to two hundred feet from the hilly ground surrounding the lake. The birds of Butler's Lake are protected the year around and for that reason many can be found there that are scarce or wholly wanting in similar regions in Lake County.

I spent only two hours there on my first trip on July 2, 1915, but had the good luck to find twelve nests. The first of these nests was that of a Yellow-headed Blackbird and contained three eggs. This was a find of some note to me, for not only was it the first of its kind I have ever found, but also because Butler's Lake is the only place in Lake County where these blackbirds breed. In the extensive Skokie Marsh,

which covers several thousand acres and which is located just five miles to the east, no Yellow-heads can be found, even in migration time. During the remainder of the two hour's hunt two or more nests were found containing four eggs and three young, respectively. Besides these nests there were some twenty young birds scrambling through the reeds or sunning themselves on dead cat-tail stalks.

The next nest found was that of the Pied-billed Grebe with five eggs. It was situated in the center of a small open area in the reeds along the shore. The eggs were uncovered. Another nest of this grebe was found in a more open situation on the other side of the lake and contained seven warm, uncovered eggs. About two hundred feet away from the first grebe's nest was found a Florida Gallinule's nest and set of nine eggs. Most of the eggs were pipped and one egg was nearly hatched. This egg I put in my pocket, where it hatched, and afterward the young was given to Mr. Henry K. Coale, of Highland Park, Ill.

Within a few feet of the Gallinule's nest a Least Bittern was flushed from its nest in a small clump of dead rushes. The nest was a foot above the water and held four fresh eggs. Another similarly situated nest was found a little later containing four eggs. A few hundred feet further on about fifteen Black Terns were flying around a certain spot where the reeds grew far out into the lake. They were much alarmed at my presence and kept up an incessant screaming. Three Black Tern nests were located, two containing three eggs each and the other, two eggs. All three were composed of a small mat of rushes floating on the water, and in one the eggs were lying in a quarter of an inch of water. The last nest for the first day was a Kingbird's in an oak tree near the lake with three well incubated eggs.

In wading through the marshy edge I flushed many other birds, such as King Rails, Sora, Coot, Mallard, Bittern, Redwing, Green Heron, and Long-billed Marsh Wren. I saw one female Mallard with ten young and also many empty or dummy nests of the Marsh Wrens, beside other large nests resembling those of the King Rail and Bittern.

In order to take some pictures of these nests I again went out to Butler's Lake on the eighth of July. I spent three hours in taking pictures and in finding new nests. Only a few of the pictures were good, because of the high wind that was blowing and shaking the nests. On this day two more Black Tern nests, with two eggs and two young, were found in the same part of the lake that those on July 2 were found. One of the young swam out of sight before I could focus my camera. Another Florida Gallinule nest was found with four pipped eggs and some shell chips, from which I suppose others had hatched and had already taken to water. Of the Least Bittern, four were located. One had five eggs, two held four eggs each, and a fourth had four broken eggs. Two Yellow-headed Blackbird nests with three eggs each, one with one egg, and another with four well grown young were seen; also one Red-winged Blackbird's with four young. In a very open situation between two beds of reeds my first Coot nest was discovered containing three eggs.

I consider Butler's Lake to be an oasis of water birds in Lake County. The whole county is thoroughly hunted fall and spring, therefore the wealth of bird life is due wholly to protection and not especially to food supply, for there are over a hundred lakes in Lake County similar in situation and adaptability for water birds to Butler's Lake.

Ravinia, Illinois.

CARDINALS IN NORTHEASTERN IOWA.

BY MARY E. HATCH, M'GREGOR, IOWA.

The first cardinal seen in this part of the country, so far as I know—at least the first to be recorded, was on December 11, 1906. It appeared in the yard adjoining the one where we lived, in the north end of this little bluff bordered town.

The ground was well covered with snow; so it is not hard to imagine my surprise and delight, upon looking out of my kitchen window, in seeing this beautiful dash of red against the white background. And what was he doing? Feeding

with English sparrows! A true aristocrat at the table of a plebeian.

A year or so passed and no further sight of a cardinal. Then we began to see them occasionally. Soon they were more in evidence, and now (1915), they are comparatively common. I have them every winter feeding at my table; and at least twenty other people in town have them as well. They are not the same ones, for once, when we had a pair here, we telephoned to a friend at the other end of the town, who had a bird table, too, to see if she happened at that moment to have any. She reported three.

Like robins, cardinals prefer to build near houses. One built in an arbor this spring and right in the path leading to the house, where many were coming and going.

One of our bird lovers reported the following delightful experience this spring: She was climbing one of the nearby wooded bluffs, and came upon a cardinal family. The old birds were instructing the fledglings. It was not quite clear what the male was at that moment trying to teach; but probably it was a lesson in voice culture. All were on the ground, while the teacher was whistling a low sweet melody. His head was lowered to the ground, and all the little ones were imitating this pose.

Cardinals winter well in this locality and come out in the spring in good condition. They sleep mostly within close branches of evergreen trees. Corn is their favorite food, though they will eat almost anything that other birds will. They can crack a kernel of corn as easily as a squirrel does a nut.

We hope the cardinal grosbeaks have come to stay; and mean to do everything in our power to make them know how welcome they are.

We have a great many birds here both winter and summer. Conditions are favorable. We have the grand old Mississippi River and its tributaries to furnish water; we have the surrounding tree-covered bluffs. Then we have a people here who appreciate the worth of birds, giving them food, shelter and protection.

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Edited by **LYNDS JONES**

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EDITORIAL

The distressing delay in mailing the September number of this Bulletin must be laid at the door of those who handled the issue as freight. The shipment went far astray, just how far may not be known. It was nothing for which the officers of the Club can be held responsible, and nothing that could have been foreseen.

The Third Annual Meeting of the Wilson Ornithological Club will be held in Columbus, Ohio, December 28 and 29, in the Horticultural Building of the Ohio State University, in conjunction with the American Association for the Advancement of Science. There is every indication that there will be a large attendance.

The editor is obliged to defer the reviews of the ornithological magazines until the next number. They contain papers which should receive more attention than it would be possible to give them in the space and time at our disposal with this number.

Hereafter the "Bluebird," which has been under the management of Dr. Eugene Swope, Cincinnati, Ohio, will be issued from Cleveland, Ohio, under the auspices of the Cleveland Bird Lovers Association. It will be edited by Mrs. Elizabeth C. T. Miller. We wish it success in its new environment. The new address is 1010 Euclid Avenue, Cleveland, Ohio.

GENERAL NOTES

NORTHERN PHALAROPE IN MAHONING COUNTY, OHIO.

A Northern Phalarope (*Lobipes lobatus*) was seen by the writer at Pine Lake, Mahoning County, Ohio, October 9th, 1915.

The bird spent part of the time on the shore feeding, and part in floating on the choppy surface of the lake, about two feet from the shore. It took to the water possibly for recreation or diversion, as it was not seen to take food while in the water.

It was most pleasing to see this small shorebird swimming with such surprising ease and grace. This is the first known record for this species in Mahoning County.

John P. Young.

SCREECH OWL OCCUPYING A BOX.

Early this spring I constructed from fir lumber a large nest box according to design No. 19 in U. S. Bulletin, "Bird boxes and how to build them." This box is large enough for sparrow hawks and screech owls, and was privately dedicated to the use of a screech owl, who seemed to be staying in the neighborhood. Until recently there were no signs of occupancy. The past few weeks the owl has been giving his peculiar vocal selections, morning and evening, from the group of trees where the box is hung, and a few days ago I was fortunate enough to find him peering out into the dusk, awaiting a favorable time to begin his nocturnal hunting. Since then he can be seen every evening, his oddly shaped head having the appearance of a kitten looking out of the hole.

A couple of largest size Perry boxes have hung in these trees for a year or so, but either the openings are not quite large enough, or the locations are in some way unsuitable, as they have never been used. The board box now occupied is placed in a thick part of the tree, facing southeast. This direction protects the opening from our coldest winds, as well as the heat and sunshine of most of the day. I feel much gratified to know this interesting and valuable feathered guest has accepted my hospitality, and joined the other birds who make our yard their winter home.

Although screech owls are common enough in all towns, reports of their occupying boxes are not often seen, and I venture to mention this instance to the Wilson Club, for the benefit of others who may be cultivating their acquaintance.

Iowa, Nov. 1915. T. H. W.

CARDINAL AT WYALUSING, WIS.

I must record that today, January 8, we observed a Cardinal on the high bluff overlooking the Mississippi, in what is now State Park lands, here at Wyalusing. We have had them for several winters, but always in the lowlands, but today he was here eating the crumbs not eight feet from our door. We are going to take note of his stay with us.

These few lines enclosed were suggested by his appearance. Perhaps you can find use for them in the Wilson Bulletin.

I intend soon to write what influence on the bird life here the establishment of the park has had.

"Oh, dear Kentucky Cardinal,
You come with scarlet coat,—
With plumage gay; with merry call,—
Each trill a perfect note!

"Why come you now, oh Cardinal,
When all the woods are bare,
When snow and ice fast bind the creek,
And frost is in the air?

"Is it because, my Cardinal,
This old world seems so drear,
You come with song and plumage gay,
To make a note of cheer?"

(MISS) ELMA GLENN.

Wyalusing, Wis., Jan. 8, 1915.

PUBLICATIONS REVIEWED

Wild Bird Guests. How to Entertain Them. With chapters on the destruction of birds, their economic and æsthetic values, suggestions for dealing with their enemies, and on management of bird clubs. By Ernest Harold Baynes. With 50 photogravure illustrations from photographs. New York: E. P. Dutton and Company. 1915.

To those who are acquainted with the exceptional ability of the author of this book to attract the birds even to the familiarity of inducing them to a light upon his person and even take food from his lips, this book comes as a most welcome teacher of methods and results. The scope of the book and its mission are well shown by the titles of the three parts into which it is divided. Part I states the reasons "Why Birds Need Protection," in four chap-

ters. Part II states "Why it is Worth While to Give Protection," in terms of "Money Values" and "Æsthetic and Moral Values." Part III is concerned with "How We Can All Help to Protect Birds." An Appendix is concerned with directions for organizing bird clubs for purposes of protecting birds. The book is certain to be of great value in the campaign for better protection to birds. L. J.

Conclusions from a Study of Ornithology. By Howard Jones, A.B., A.M., M.D., Circleville, Ohio. 1915. Read before the Audubon Club of Columbus, Ohio, February, 1915. Published by the Author.

The meat of this published address, which covers 22 printed pages, may perhaps be indicated by the following quotation: "The proper study of ornithology will give a new outlook upon the universe, a new attitude toward everything, because, we shall lay aside our emotions and act upon our intelligence. We shall know we are hunting the mystery of life and matter for ourselves, and, that every fact learned is an effort to state that mystery in terms; that every observation and discovery help us to spell some new word. 'As we advance we shall see clearly that TRUTH, JUSTICE, LOVE and AFFECTION are not eternal abstract principles shining like sunlight from a great distance across our path.' We shall see clearly that life carries in itself these qualities. That they are potentially in every living cell, 'that they are in us, move with us, and that their horizon is our own.'" L. J.

Simultaneous Action of Birds: A Suggestion. By Winsor M. Tyler, M.D. From The Auk, Vol. XXXII, No. 2, April, 1915. Pp. 198-203.

The argument is based upon the assumption that there is actual simultaneous action of birds, and the 'telepathic action' is invoked to account for the supposed simultaneous action. The only proof which we have that there is actual simultaneous action is the human eye, unless there be actual photographs—which the writer has not seen. It seems unlikely that the human eye could be relied upon in the case of such rapid motion as the quick turnings of flocks of birds so often exhibit. Indeed, it would be the exceptional photograph which would prove reliable here. That there is a quicker response to fright stimuli in birds than in man there is probably no question, but that such response is instantaneous is open to serious question. L. J.

The Birds of Dickinson County, Michigan. By Frederick M. Gaige. Reprinted from Sixteenth Report Michigan Academy of Science. Pp. 74-91.

The list was compiled between June 30 and August 24, both in-

clusive, 1909, while the writer of this report was attached to a field party sent out by the Michigan Geological and Biological Survey to investigate the biology of the region about Brown Lake, Dickinson County. The report deals with "Habitats and Habitat Distribution of Species," "Migration," "Effect of the Burn on the Local Distribution of the Birds," and the systematic annotated "List of Species." There are 88 species listed. The paper is a welcome contribution to the distribution and ecology of the region in question. L. J.

Results of the Shiras Expedition to Whitefish Point, Michigan. Birds. By Norman A. Wood. Reprinted from Sixteenth Report Michigan Academy of Science. Pp. 55-73.

"Whitefish Point is in Chippewa County, in the northern peninsula of Michigan." The birds are first grouped according to habitat, and then arranged in systematic order, with annotations, the dates of occurrence being given. We particularly commend the method here employed of grouping the species according to habitat preference. The paper is a valuable contribution to local faunal and floral literature. L. J.

Biological Division Zoölogy. From the Summary Report of the Geological Survey, Canada, for the calendar year 1914. By P. A. Taverner. With a repaging, 1-15.

The particular part of this report with which we are concerned is the report of "The Athabaska-Great Slave Lake Expedition, 1914," by Francis Harper, and the "Canadian Arctic Expedition, 1913-14," by R. M. Anderson. The whole report is devoted to biology in general. It is worth noting that Mr. Taverner concludes that the region which the expedition to Athabaska-Great Slave Lake visited was "found to lie almost entirely within the Canadian zone." The U. S. Biological Survey has regarded it as Hudsonian. Mr. Harper gives a list of 85 species of birds, and Mr. Anderson a list of 52. The vegetation is also commented upon, and lists of other Vertebrate animals given. L. J.

Propagation of Upland Game-Birds. The National Association of Audubon Societies. Bulletin No. 2, April, 1915. By Herbert K. Job. Price 25 cents.

This Bulletin contains detailed directions for propagating quail, ruffed grouse, wild turkey, and pheasants, with brief remarks on prairie chicken and doves and pigeons. Three pages on "Control of Vermin" conclude the Bulletin. It is interesting to note that the author includes domestic cats under the head of vermin. Numerous illustrations add value to the paper. It is a paper that can be highly commended. L. J.

Announcement

As I find it necessary to move my belongings to another locality, I'm endeavoring to make the task as light as possible. If any colleges, museums or individuals would be interested in acquiring certain specimens, I might arrange things to the mutual advantage of all parties concerned.

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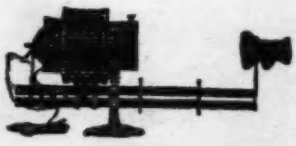
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